# Green Tag/REC Markets & Trading

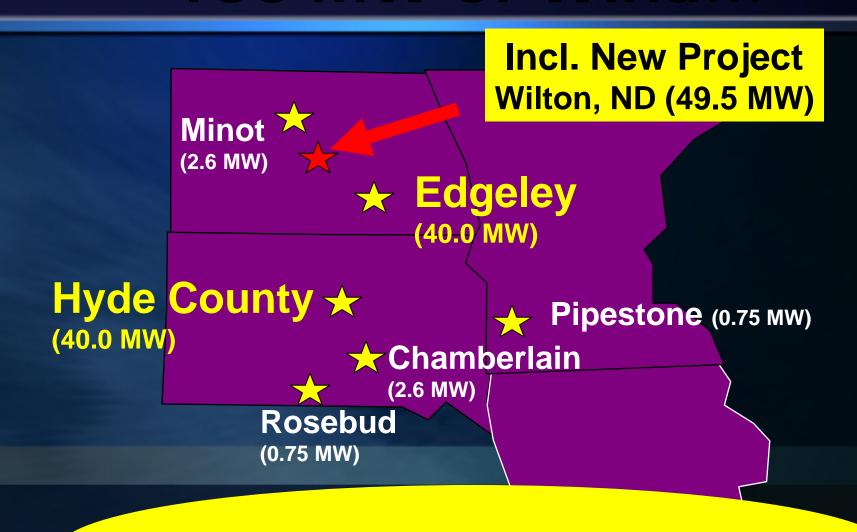
Green

Tags

Planning for the future....



#### 136 MW of Wind...



**Annual Production >450,000 MWH/yr** 

#### Why Wind???

9 of the top 12 wind states are in member's service territory!

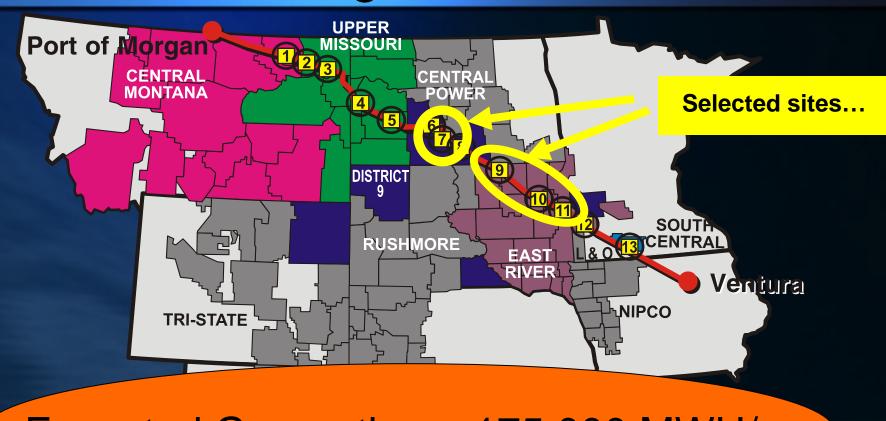


## We're also looking at other non-standard resources...



# Methane Digester Waste Heat Recovery

## 4 Waste Heat Recovery Projects...



Expected Generation: >175,000 MWH/yr



#### Basin's "Green" Resources...

1. Wind

136.5 MW

2. Heat Recovery

**22 MW** 

Total Capacity 158.5 MW

Other Possible Green Resources
Biomass & Solar?

#### Regional-Renewable Portfolio

Laws...

Renewable Energy, or...

Colorado RPS



Green Tags...

#### Green Tags

(A.K.A. "RECs", "TRCs")

#### Defined as:

"...bundle of rights related to the non-energy attributes of a MWH of electricity, generated from an environmentally-preferred source..."

Source: Bonneville Environmental Foundation

#### Concept of Green Tags:

Separate renewable feature from the







1 Green Tag represents the Generation of 1 MWH of renewable energy

## There is value in the Green Tags



#### BEPC 2005 Green Tag Rate...

- Small Quantities: \$5.00/Tag
- More than 5,000 Tags: Market Price



1 Tag = Renewable attributes of 1 MWH





Certificate Number: xxxx-x Date: Month Year

#### Renewable Energy Green Tag Certificate

By the purchase of this Renewable Energy Certificate, you are supporting renewable energy.

Each Renewable Energy Certificate represents the intangible, generally perceived environmental attributes and benefits associated with producing electricity from an electric generating facility generally regarded as a source of environmentally-preferred energy, such as wind, small hydro, solar or biomass.

With the sale of this Renewable Energy Certificate to the Purchaser, Basin Electric Power Cooperative hereby transfers the ownership of the above-defined environmental attributes to the Purchaser. Basin Electric will not use those attributes for meeting any other environmental obligations or requirements.

The environmental attributes identified in this Renewable Energy Certificate represent renewable energy (electricity) generated by a wind generator. This renewable energy is documented and tracked by a unique serial number. In addition to a unique number, each serial number also includes the month of generation, also known as the "vintage". Each serial number defined in this Renewable Energy Certificate represents the generation of 1000 kilowatt-hours (1 Mega-watt-hour). The unique serial number(s) documented below represent the environmental attributes transferred to the Purchaser by this Renewable Energy Certificate

#### Renewable energy data specific to this certificate:

Green tag serial numbers:

EWP Oct2003 100005828 errough EWP Oct2003 100006660 833 MWh of green energy (833,000 kWh)

Quantity delivered under this certificate: Type of generation:

Additional information on the definition and benefits of Renewable Energy Certificates and the terms and conditions of sale can be found on our website www.XXXXXXXX.com



#### Current Value of Tags (RECs)



#### Some Marketing Hurdles...



#### Customer Expectations:

#### The Green Tag/REC provides...

- Perceived Environmental Benefits
   (Fuel is avoided/ or conserved)
- Verification as a Legitimate Purchase (No Double Counting)

#### 3<sup>rd</sup> Party Tracking can aid marketing...





**Customers** want **Assurance** Verification **Branding** 

#### 3rd Party tracking benefits...

Reinforces
Market Integrity



Allows Economy of Scale

Provides a high visibility Clearinghouse

#### Last, but not least...

A Commodities Market For RECs is Needed



Tracking systems or a national clearinghouse will help

#### Example:

#### Executive Order 13123 Dated: June 3, 1999



Part 2—Goals, Sec. 204. Renewable Energy.

 Each agency shall strive to expand the use of renewable energy within its facilities and in its activities by implementing renewable energy projects and by purchasing electricity from renewable energy sources.

## Federal Market for RECs is a great opportunity, but...

... there are some issues that need attention

#### Geographical Discrimination

# Many Federal in RFPs restrict RECs from windy regions (or outright ban them)

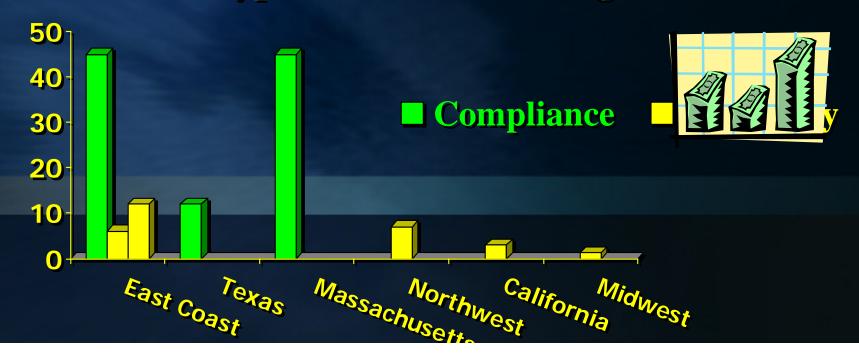
Possible violation of Interstate Commerce Clause



#### Typical 3 Year Contract

### ...has significant price risk

**Typical Market Pricing** 



## Midwest-Renewable Energy Tracking System (M-RETS)

#### Purpose:

3rd party tracking of renewable attributes

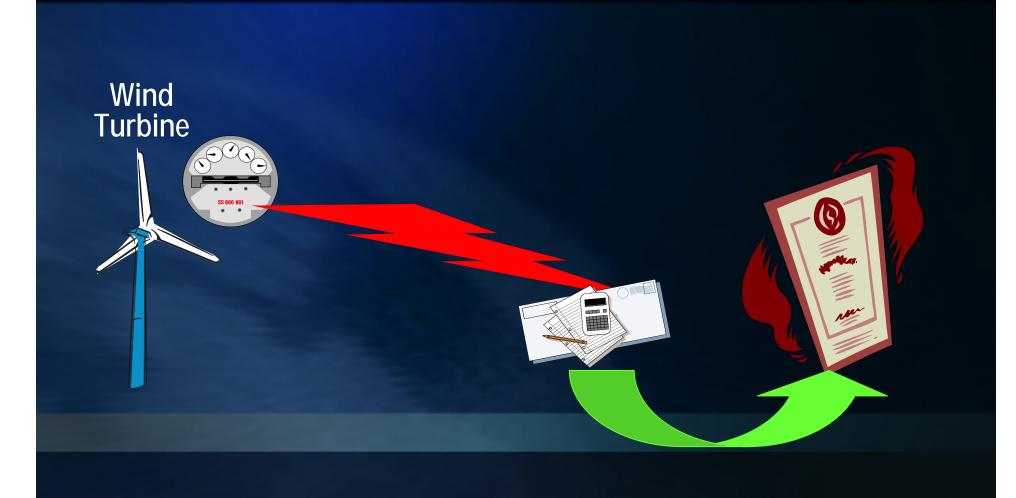
Verification & Documentation "Paper Trail"

Voluntary

#### Possible Participants

- South Dakota
- North Dakota
- Minnesota
- lowa
- Wisconsin
- Illinois
- Manitoba
- Others?

#### Process Flow...



#### Long Range Goal...

## Develop Nationally Recognized Standards...

Based on Measurable Environmental Benefits

Green

**Tags** 



#### National Tracking System is Needed

- WREGIS (Western Renewable Energy Generation Information System)
  - Western half of US (WECC footprint)
  - WECC is institutional home
  - Getting close to operation
- MRETS (Midwest Renewable Tracking System)
  - ND, SD, MN, IA, WI, Manitoba
  - Working on procedures and final concept
  - Legislation in ND/SD to allowing participation
- Others Wisconsin, PJM, NEPOOL, ERCOT, etc.

### Standards & System Integrity are *Critical*

#### Suggestions: Keep Things Simple!

- Good Reference: Nat. Assoc. of Attorneys General
   "Guidelines for Environmental Marketing"
- Verification Process:
  - Independent CPA or;
  - Qualified internal auditors
  - "Agreed on Procedures" (Audits do not apply)
- Leave fuel mix, market power, etc., to regulators

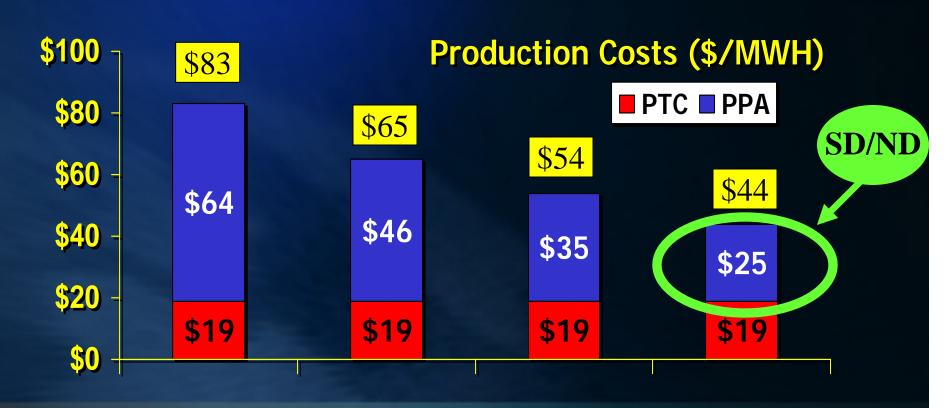
# Clarification: For those who are developing standards...

To a CPA, the term "audit" only applies to financial statements.

For a tracking system or REC program; a more correct term is "agreed-on procedures"

#### Intent...

#### Add to SD's competitive advantage!



Class 3 Class 4 Class 5 Class 6
Wind Resource Category